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1
2 RECORD OF ORAL HEARING
3 UNITED STATES PATENT AND TRADEMARK OFFICE

4
5 BEFORE THE BOARD OF PATENT APPEALS
6 AND INTERFERENCES
7

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9 Ex parte YASUHARU YOSHIDA
10

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12 Appeal 2009-009124
13 Application 09/921,714
14 Technology Center 2600
15

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17 Oral Hearing Held: April 20, 2010
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20 Before JOHN C. MARTIN, MAHSHID D. SAADAT, and
21 CARL W. WHITEHEAD, JR., Administrative Patent Judges.
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24 ON BEHALF OF THE APPELLANT:
25

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1 The above-entitled matter came on for hearing on Tuesday,
2 April 20, 2010, commencing at 10:30 a.m., at the U.S. Patent and Trademark
3 Office, 600 Dulany Street, 9th Floor, Hearing Room A, Alexandria,
4 Virginia, before Jan M. Jablonsky.

5 THE USHER: Calendar Number 51, Ms. Moskowitz.

6 JUDGE MARTIN: Good morning, Ms. Moskowitz.

7 MS. MOSKOWITZ: Good morning.

8 JUDGE MARTIN: Do you have a business card that you can
9 give the reporter?

10 MS. MOSKOWITZ: I do.

11 JUDGE MARTIN: Thank you. You can proceed whenever
12 you're ready.

13 MS. MOSKOWITZ: Thank you. If I may, I think that
14 Appellant's positions on the various issues have been laid-out very clearly in
15 the various Briefs that have been filed, but I would like to give an overview
16 of the issues and the invention as claimed in the references and touch upon
17 what I think are the key points in Appellant's arguments. As everyone is
18 aware, the Examiner bears the burden of establishing a prima facie case of
19 obviousness.

20 The Appellant maintains that the Examiner has not met this
21 burden and that the Appellant can establish the error in the Examiner's case
22 for two main reasons, the first being that the Examiner has not established
23 the motivation to combine the two references that are cited in the 103
24 rejection, the Ando and the Wiatrowski references. And, second, that even if
25 the two references were combined that the combination doesn't teach or
26 suggest each of the limitations as recited in the independent claims.

1 Overall, Appellant's invention is directed to a communications
2 system and a method for dedicated short range communications, such as in
3 this case those between on-vehicle equipment and various roadside
4 equipment that can provide various services. For example, roadside
5 equipment in a parking lot could provide parking lot management services
6 and in various specific embodiments described in the specification,
7 electronic toll collection services can be provided by roadside equipment at
8 toll booths, for example.

9 Different services provided by different roadside equipment
10 operate in different physical zones and transmit on different frequencies.
11 There is a benefit of having a number of services provided to the user, the
12 car operator and the on-board equipment, but the greater number of services
13 provided means greater number of frequencies are transmitted, which means
14 longer time is taken for the on-board equipment to scan through the various
15 frequencies to find the correct one. This is a problem not so much in
16 systems that are not using high speed communications, such as parking lot
17 systems, but in systems like toll booth systems and toll collection systems,
18 high speed communication is desired.

19 And, so, in fact it may take a long time to scan through all the
20 possible frequencies is detrimental. So Appellant and the Inventors saw a
21 need for a communication system that can receive a number of services on a
22 number of different frequencies, but they could still successfully operate
23 quickly. The solution that was established, a solution that was established,
24 what is described in the two independent Claims 1 and 8 is a system by
25 which the on-vehicle equipment forms a search for radio frequencies. They
26 were used by the road-side equipment; and, more specifically, which is

1 recited in the last limitation in each of Claims 1 and 8 that the search is
2 performed by cyclically switching radio frequencies from one to another
3 while keeping specific ratios.

4 In this case the claim recites "keeping a first ratio of the radio
5 frequencies for a first type of communication or search for larger than a
6 second ratio, that the first ratio is defined as" -- I'm sorry. "The first ratio is
7 defined as a ratio for a first type of communication, which is a scanning time
8 spent searching for the first type of communication divided by the total scan
9 period and the second ratio is the time spent searching for the second type of
10 communication over the total scan period." So, in other words, what this
11 means is that the frequencies are searched for cyclically, but different
12 frequencies are for different types of communication. And those frequencies
13 which are for a first type of communication, more time in cyclical searching
14 is spent searching for those than is spent searching for the second
15 frequencies for the second type of communication.

16 Figure 2 of the application illustrates embodiments of different
17 examples of cyclically searching. The Ando reference, which I will give you
18 an overview of right now, is also directed to communications between
19 roadside equipment and on-board equipment in a car, for instance. The
20 problem that the Ando invention is directed to is an issue related to
21 synchronization signals that are used and are described communications that
22 are controlled by establishing synchronization between the receiver and the
23 transmitter and that this is established by using these synchronization
24 signals.

25 Long synchronization signals are beneficial because as they're
26 longer, the influence of noise is less important. They are more reliable.

1 However, they are longer, short synchronization signals are beneficial,
2 because by definition they are shorter. It takes less time to de-modulate and
3 process them. And so Ando is directed to using a combination of long and
4 short synchronization signals that provides to a certain extent the benefit of
5 books.

6 What's important and what I'd like to emphasize with respect to
7 the Ando reference is that the onboard equipment and the roadside
8 equipment in Ando each only transmit at a single frequency which means
9 that the onboard equipment is described in the Ando reference. It's only
10 receiving a single frequency, so there's no teaching or suggestion in Ando of
11 scanning any multiple frequencies or of receiving any multiple frequencies.

12 Figure 2 of Ando is a relatively clear illustration of how the
13 communications operate and how the roadside equipment and the on-board
14 equipment of Ando are laid out. As you can see in Figure 2 --

15 JUDGE SAADAT: Ms. Moskowitz, I am sorry to interrupt
16 you. Can we focus on the secondary reference?.

17 MS. MOSKOWITZ: Sure.

18 JUDGE SAADAT: We know the Examiner identified these
19 missing parts as you are explaining in the rejection. So the secondary
20 reference was brought in to teach the multiple frequency of scanning in
21 communication. And with that I want to focus on Figures 2A and 2B.

22 MS. MOSKOWITZ: Yes.

23 JUDGE SAADAT: And that's pretty much similar to the last
24 clause of your claim, the different frequencies being scanned at different
25 ratios with respect to the time spent at each frequency. So what part of, for
26 example, Figure 2B, you can identify that is different from the claim?

1 MS. MOSKOWITZ: Okay. With respect to Figures 2A and 2B
2 they show -- I can see right here -- different periods that are spent scanning
3 different channels labeled channel 1 through 4 in Figure 2A and channels 1
4 through 6 in Figure 2B. The main points that I think are important and that
5 establish the distinction that you're asking about with respect to the
6 Wiatrowski in these figures is that first -- and I'll go into each of them more -
7 - but first what's being scanned in these figures are channels, not
8 frequencies. And I'll explain the distinction.

9 But further that -- and this is part as I said -- we have both no
10 motivation to combine and no-teaching argument that this is also related.
11 The reason I was talking about Ando is that there's no motivation to modify
12 Ando based on these teachings, but since you are asking about the channels,
13 I'll do that first. The Wiatrowski is directed to radio frequency
14 communications such as trunked radio communication systems and different
15 channels in these systems have different priorities, so that --

16 JUDGE SAADAT: What defines a channel?

17 MS. MOSKOWITZ: I'm sorry?

18 JUDGE SAADAT: What defines a channel?

19 MS. MOSKOWITZ: Channels are defined variously. If you
20 look, for example, at column 8 -- the last paragraph on column 8 -- starting
21 around line 58, describes that a communication unit, which is I believe what
22 the Examiner compared to our on-vehicle equipment, has multiple channels
23 that are assigned to it, multiple channels which it uses and can communicate
24 on. And the second sentence clearly says these channels may tune to the
25 same or different receive and transmit frequencies. The different channels
26 can be all assigned to the same frequencies. The difference that the channels

1 are distinguished based on other features such as described at the end of
2 column 8, squelch rules, different talk groups, different modulation types.

3 The top of column 9 illustrates -- and it's described in the last
4 sentence in column 8 -- that a communication unit can have only two
5 frequencies. Column 9 has a chart which illustrates, for example, a
6 frequency A that is used for reception and a frequency B that is used for
7 transmission, that a communication unit can have only two frequencies, but
8 have 16 or more channels assigned. What this means with respect to Figures
9 2A and 2B, which you were referring to, is that even now Figures 2A and 2B
10 illustrate different time spent searching for different channels.

11 It is certainly not a one to one relationship between channels
12 and frequencies. And while spending different time searching on different
13 channels may mean that different frequencies are searched, there is no
14 teaching or suggestion that the ratios that are established or illustrated in
15 Figures 2A or 2B of the time spent searching the different channels have any
16 correspondence with time spent searching different frequencies.

17 JUDGE SAADAT: But the same description of channel allows
18 for different channels having different frequencies, so there are cases that,
19 even within this reference, these different channels may have different
20 frequencies, and maybe the same or different in other elements.

21 MS. MOSKOWITZ: Yes, different channels may have
22 different frequencies. It is not required in Wiatrowski that all of the
23 channels have the same frequencies as illustrated in column 9.

24 JUDGE SAADAT: But it doesn't preclude different
25 frequencies for these different channels.

1 MS. MOSKOWITZ: However, it does not preclude different
2 frequencies; however, the way the Examiner seems to be interpreting
3 Wiatrowski is that each channel has a different frequency. While certain
4 channels may have different frequencies, if one were to interpret Wiatrowski
5 to require each channel to have a different frequency, it would obviate the
6 entire teaching of Wiatrowski, which I will explain.

7 The idea of Wiatrowski is that while a communication unit is
8 open to communications on a non-priority channel it is continuing to scan
9 priority channels; however, and this is described in the background section,
10 that's called a priority scan when the communication unit is open to
11 communication on a non-priority channel that it continues to scan priority
12 channels.

13 That priority scan causes audio holes in the ongoing
14 communication which are undesirable, and so the Wiatrowski reference is
15 directed to a method of doing priority scans, but only when necessary and
16 inhibiting them in certain instances. And what each of the embodiments of
17 Wiatrowski describe is that those certain instances in which the priority
18 scanning is inhibited, that determination of whether it's inhibited or not is
19 based on the question of whether the frequency of the non-priority channel,
20 which is the ongoing communication is the same as the frequency of the
21 priority channel, which would be scanned.

22 So each of the embodiments makes this determination of is the
23 frequency of the non priority channel, which is in Wiatrowski F1, because 1
24 is a reference to the non-priority. Is F1 the same as F2? You can see Figure
25 3 is a flow chart that describes the main embodiment of Wiatrowski and how
26 this determination is made to whether to inhibit or continue the priority scan.

1 And you can see step 307, F1 equals F2, question mark. Each embodiment
2 makes this determination.

3 So my point with respect to the different channels and the
4 different frequencies is that if each channel had a different frequency, the
5 answer would always be no. And the priority scan would never be inhibited
6 according to Wiatrowski.

7 JUDGE SAADAT: But it allows for each scan to go to the
8 “no” branch and continue prior to scan at step 319.

9 MS. MOSKOWITZ: Yes, it does. But my point is the answer,
10 yes, may sometimes be no.

11 JUDGE SAADAT: There is no limit on the number of loops
12 through that “no” branch.

13 MS. MOSKOWITZ: Of course not. No. But my point is that
14 in order for the Examiner to refer to Figures 2A and 2B as teaching the
15 different ratios that we recite that Appellant recites in Claims 1 and 8, those
16 ratios in Figure 2A and 2B are only with respect to channels. So in order for
17 those to be comparable to the ratios that we're claiming with respect to
18 frequencies, there would need to be a one to one relationship between
19 channels and frequencies, and there is no teaching of that.

20 And, if it were interpreted that way the answer would always be
21 no, which would mean the priority scan would never be inhibited; and, if
22 that were intended or interpreted that way in Wiatrowski, the entire
23 invention would be useless. The whole point of the invention is to improve
24 upon the old system in which the priority scan is never inhibited. So not
25 only is there no teaching that there's a one to one relationship between the
26 channels and the frequencies, but if there were it would obviate the entire

1 invention. And, also, importantly, even if Wiatrowski did teach that, which
2 it doesn't, one of skill in the art would not have been motivated to combine
3 that teaching with Ando.

4 JUDGE MARTIN: Any questions? Anymore questions?

5 JUDGE SAADAT: I am clear about your position. Thank you.

6 JUDGE MARTIN: No further questions. Is there anything you
7 would like to add?

8 MS. MOSKOWITZ: I think I've established it.

9 JUDGE MARTIN: All right. Well, thank you very much.

10 Whereupon, at 10:50 a.m., the proceedings were concluded.

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